

## ABSTRACT OF THE DISCLOSURE

The invention provides an acoustical model creating method that obtains high recognition performance under various noise environments such as the inside of a car. The present invention can include a noise data determination unit, which receives data representing the traveling state of the vehicle, the surrounding environments of the vehicle, and the operational states of apparatuses mounted in the vehicle, and according to the data, determines which noise data of the previously classified  $n$  types of noise data corresponds to the current noise. The invention can also include a noise removal processing unit in which the  $n$  types of noise data are superposed on standard speech data to create  $n$  types of noise-superposed speech data, and then  $n$  types of acoustic models  $M1$  to  $Mn$ , which are created based on the  $n$  types of noise-removed speech data from which noise is removed, and noise-superposed speech from a microphone are input together with the result of the noise type determination, and then noise removal is performed on the noise-superposed speech. The invention can also include a speech recognition processing unit in which speech recognition is performed on the noise-removed speech using the acoustic model corresponding to the noise type which is determined by the noise data determination unit among the  $n$  types of acoustic models.